C1575-1A

december-january 1984

school bus fleet

a bobit publication

SPECIAL EDITION

SID

FACT BOOK

Featuring

Industry Directory
Industry Statistics
Association Guide

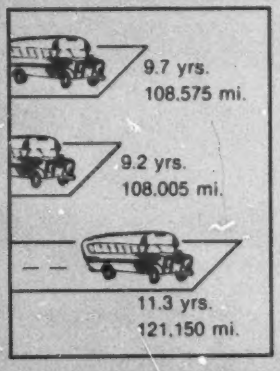
dec/jan '84 vol. 28 no. 6

school bus fleet

a bobit publication

Affiliated Publications
Metro
Automotive Fleet
Contemporary Surgery
Contemporary Orthopaedics
Waterbed
Limousine & Chauffeur

Who's Who



Industry Statistics

Associations: NSTA's Van Der Aa & Others

Features

5 **10th Annual Minimum Standards Conference**

6 **1984 Bus Models**

Blue Bird
Carpenter
Coach & Equipment
Collins
Crown
Mid Bus
Superior
Thomas
Transportation Products
Ward
Wayne

Directory

19 Index
20 Industry Associations
26 Bus Manufacturers
36 Bus Services
41 Chassis Manufacturers
43 Components & Systems
60 Consultants & Services
66 Late Listings
67 Distributors
87 Industry Statistics

Departments

Classified 93 Ad Index 97 Publisher's Perspective 98

Member:
National School Transportation Association
National Association for Pupil Transportation
business publication audit, inc.

SCHOOL BUS FLEET (ISSN 0036-6501) is published six times a year (February, April, June, August, October and December) by Bobit Publishing Company. The contents of this publication may not be reproduced either in whole or in part without consent of Bobit Publishing Company. Please address ALL correspondence to Editorial and Executive Offices at 2500 Artesia Blvd., Redondo Beach, CA 90278. Subscription prices $12 for 1 yr.; $20 for 2 yrs. Canada $18 for 1 yr.; $30 for 2 yrs; Foreign $50 for 1 yr.; $100 for 2 yrs., (U.S. Currency). Single copy $2, except Fact Book $10. Second class postage paid at Redondo Beach, CA 90278-0988 and at additional entry. POSTMASTER: Return Form 3579 to 2500 Artesia Blvd., Redondo Beach, CA 90278.

Industry Statistics

School Transportation in 1981-82

Based on reports from State Departments of Education. Prepared by The National Association State Directors of Pupil Transportation Services and Robit Publishing Research Dept.

State	Pupils Transported at Public Expense	Number of Vehicles Used: Type		Ownership		Total Number of Buses	Transportation Expenditures Including Capital Outlay
		Type I	Type II	Public Operated	Contractor Operated		
Alabama	466,077	6505	280	6557	228	6785	59,766,851
Alaska	36,656	475	90	111	454	565	19,047,099
Arizona	180,059	2,778	382	3,160	N/A	3,160	169,266,677
Arkansas	265,808	3,960	120	3,926	154	4,080	44,290,907
California	874,069	12,364	4,728	11,628	5,464	17,092	332,596,155
Colorado	221,155	3,602	231	3,602	231	3,833	54,002,003
Connecticut	342,700[5]	4,022	734	4284	475	4,756	unavailable[6]
Delaware	81,495	1,242	31	873	400	1,273	20,398,980
Dist of Col.	2,600	59	98	157	0	157	unavailable[6]
Florida	767,633	N/A	N/A	6,757	563	7,320	151,996,576
Georgia	790,000	930	8,468	9,120	278	9,398	125,000,000
Hawaii	37,349	502	217	14	705	719	13,200,000
Idaho	120,200	1,684	180	1,398	466	1,864	22,000,000
Illinois	900,000	N/A	N/A	9000	7000	16,000	135,000,000
Indiana	700,000	N/A	N/A	9,725	418	10,143	112,903,490
Iowa	261,725	6,217	682	6,691	208	6,899	57,995,920
Kansas	161,520	4,292	543	3,772	1,063	4,835	43,530,735
Kentucky	462,614	6,998	284	7,007	275	7,282	86,414,257
Louisiana	585,670	274	7,116	3,326	4,064	7,390	105,786,459[1]
Maine	163,856	2,148	79	1,819	408	2,227	32,173,216
Maryland	441,940	4,800	64	2,253	2,611	4,864	101,566,956
Massachusetts	591,349	5,582	562	1,729	4,415	6,144	128,222,653
Michigan	975,904	11,150	348	N/A	N/A	11,498	200,000,000
Minnesota	810,501	8,293	388	4,197	4,484	8,681	137,171,552[2]
Mississippi	364,464	5,126	292	5,234	184	5,418	38,668,228
Missouri	510,053	8,235	640	5,880	2,995	8,875	108,553,724
Montana	57,348	N/A	N/A	682	643	1,325	4,879,806
Nebraska	58,593	N/A	N/A	N/A	N/A	3,330	30,458,137
Nevada	52,979	849	52	0	901	901	13,568,884
New Hampshire	92,612	1,474	323	323	1,474	1,797	13,358,062
New Jersey	643,026	7,224	4,071	5,052	6,243	11,295	175,976,245
New Mexico	129,823	1,697	288	514	1,471	1,985	34,659,699
New York	1,977,152	16,812	8,187	12,859	12,140	24,999	638,520,561
North Carolina	733,019	12,715	0	12,715	0	12,715	94,201,821
North Dakota	48,428	1860	110	1613	357	1970	23,112,963
Ohio	1,348,931	14,001	370	14,105	266	14,371	212,862,318
Oklahoma	309,501	5,868	182	5,820	230	6,050	70,493,243
Oregon	240,616	3,871	342	3,067	1,146	4,213	65,569,202
Pennsylvania	1,448,178	13,961	1,337	5,324	9,974	15,298	319,622,843[3]
Rhode Island	71,439	N/A	N/A	N/A	N/A	1,244	13,546,710
South Carolina	413,318	6,501	476	6,726	251	6,977	42,859,614
South Dakota	30,658	1,033	109	798	404	1,202	15,803,218
Tennessee	611,174	6,101	329	5,055	1,375	6,430	69,062,475
Texas	795,339	18,522	2,382	20,904	0	20,904	221,920,820
Utah	111,255	1,243	68	1,257	54	1,311	21,253,930
Vermont	72,581	1,045	201	658	588	1,246	14,668,771
Virginia	725,669	8,761	320	8,848	233	9,081	109,963,965
Washington	350,000	N/A	N/A	5,172	634	5,806	76,245,569
West Virginia	289,061	2,844	103	2,886	61	2,947	65,319,216
Wisconsin	479,264	7,009	N/A	7,009	N/A	7,009	112,205,709[4]
Wyoming	40,387	948	252	1,154	46	1,200	19,782,518
Manitoba	56,251	1,700	144	1,552	292	1,844	24,528,879
Guam[5]	30,000	201	5	206	N/A	206	4,437,869
Puerto Rico	160,258	453	866	432	887	1,319	13,100,000
Saipan[5]	1,320	13	1	14	0	14	243,000
TOTALS	**22,836,272**	**242,085**	**47,907**	**237,122**	**77,213**	**335,160**	**$4,821,783,550**

[1] Does not include captial outlay and includes only state allocation.
[2] Does not include capital outlay.
[3] Does not include private contract mileage.
[4] Total cost for school transportation by large bus; excludes special education, noon hour kindergarten, between school, and extra curricular.
[5] 1980-81 data
[6] Not supplied

School Bus Accidents By State

State	Vehicles	Annual Bus Mileage (000)	Pupils Transp. Daily	Type of School Bus Accident				Prop. Damage Only Acc.	Persons Injured	
				Total[a]	Other Veh.	Non-coll.	Fixed Obj.		Total	Pupils
U.S.	**380,000[b]**	**3,000,000**	**21,200,000**	**56,000**	**44,000**	**1,700**	**2,800**	**53,000**	**7,000**	**4,200**
Alabama	6,092	52,220	466,077	170	161	0	3	136	33	15
Alaska	580	6,950	37,517	54	41	0	10	44	25	24
Arizona	...	...	...	142	122	2	6	105	231	75
Arkansas	4,082	34,148	265,808	263	123	0	0	258	...	23
California	17,371	239,388	796,142	1,763	1,448	2	138	1,394	696	423
Colorado	4,800	40,000	220,000	150	...	...	...	140	38	35
Connecticut	4,756	...	...	1,209	1,154	0	52	1,071	271	144
Delaware	1,273	15,813	81,495	77	64	0	9	63	18	11
Dist. of Col.	158	...	2,060	68	62	0	1	67	9	3
Florida	7,320	115,109	707,287	1,136	755	3	36	1,068	185	67
Georgia	9,000	65,000	690,000	945	...	...	...	...	270	190
Hawaii	...	...	...	...	...	...	...	...	...	...
Idaho	1,864	17,540	120,000	119	95	2	5	96	36	22
Illinois	17,750	138,336	750,332	2,559	2,407	27	69	2,128	881	367
Indiana	10,100	58,600	671,524	874	...	...	...	736	263	95
Iowa	6,839	63,690	261,725	650	481	23	112	602	116	55
Kansas	4,835	50,000	163,695	245	216	7	8	174	124	48
Kentucky	7,333	69,552	462,614	972	840	4	48	800	302	172
Louisiana	7,412	64,246	585,670	727	707	6	9	664	269	210
Maine	2,205	26,096	162,755	140	134	0	4	119	36	35
Maryland	4,864	71,368	458,315	1,028	888	0	88	...	108	48
Massachusetts	...	...	...	...	...	...	...	...	...	...
Michigan	14,000	190,000	960,000	1,887	1,597	9	39	1,498	601	92
Minnesota	9,735	97,967	609,566	729	601	4	15	587	282	...
Mississippi	5,418	39,632	364,464	406	268	11	109	...	...	...
Missouri	9,033	86,244	462,093	652	585	15	34	542	243	163
Montana	1,325	16,753	57,348	71	45	1	24	...	...	...
Nebraska	...	...	...	172	120	11	6	...	...	...
Nevada	901	10,961	52,974	77	...	...	...	...	26	9
New Hampshire	1,651	10,793	92,610	170	153	0	11	143	55	29
New Jersey	12,500	125,000	643,026	643	512	7	31	280	344	282
New Mexico	1,985	21,500	128,065	175	130	5	5	138	37	26
New York	24,999	143,007	1,977,152	622	495	0	11	173	968	726
North Carolina	12,715	106,750	733,019	1,137	914	127	5	816	596	544
North Dakota	2,074	25,075	49,838	71	62	2	2	59	15	3
Ohio	14,082	151,265	1,348,931	1,892	...	...	...	...	354	317
Oklahoma	6,050	59,180	275,677	410	350	6	20	339	194	149
Oregon	4,217	40,914	240,616	387	282	1	73	379	52	25
Pennsylvania	17,924	261,014	1,448,178	1,927	1,552	82	203	1,583	668	393
Rhode Island	...	...	...	...	...	...	...	...	...	...
South Carolina	6,089	58,922	413,318	840	727	60	31	822	493	395
South Dakota	794	17,657	30,968	85	60	2	11	72	20	18
Tennessee	6,430	65,765	611,174	680	596	4	53	600	236	229
Texas	20,586	191,817	793,914	1,235	...	...	...	626	607	523
Utah	1,350	14,226	109,924	75	65	2	3	69	14	7
Vermont	1,171	10,620	72,959	62	56	1	4	47	15	1
Virginia	9,081	78,902	725,669	695	649	8	24	606	227	163
Washington	6,127	58,620	348,000	281	264	3	10	189	155	44
West Virginia	3,490	36,320	288,087	594	467	25	97	566	27	9
Wisconsin	7,009	75,762	479,264	774	595	0	0	602	133	22
Wyoming	1,213	11,722	40,387	39	35	2	1	30	37	25

Source: State departments of education and state traffic authorities. Most reports cover 1981-1982 school year or 1982 calendar year. U.S. totals are National Safety Council estimates for the calendar year 1982.

[a]Totals include additional accident types not shown separately.

[b]Based on Federal Highway Administration estimates.

Growth Of School Transportation In The United States

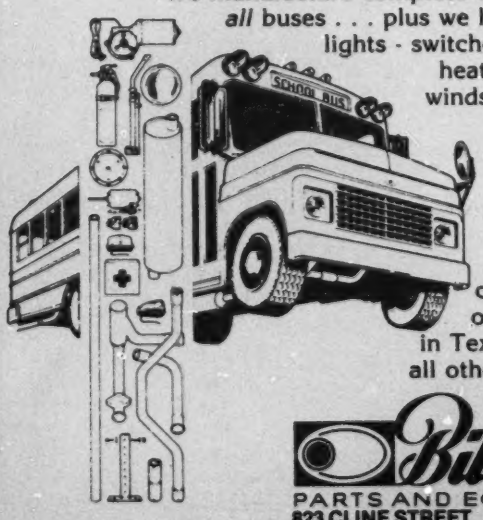
		Number of Pupils Transported	Number of Vehicles Used	Pupils Per Vehicle	Expenditure*	Expenditure Per Pupil
National Association of State Directors of Pupil Transportation Services	1981-82	22,836,272	242,085	94.3	$4,821,783,550	$211.10
	1980-81	22,598,975	334,461	67.6	$4,125,443,607	$182.50
	1979-80	22,578,280	329,808	68.5	3,894,893,829	172.50
	1978-79	22,882,191	323,333	70.8	3,341,035,199	146.01
	1977-78	21,923,780	315,489	69.5	2,880,513,030	131.39
	1976-77	23,156,006	298,173	77.7	2,666,446,831	115.15
	1975-76	22,757,316	312,030	72.9	2,285,840,977	100.44
	1974-75	22,398,556	282,834	79.2	2,000,991,592	89.33
	1973-74	21,169,633	271,552	77.9	1,537,148,313	72.61
	1972-73	20,791,737	262,579	79.2	1,407,472,462	67.62
	1971-72	20,047,589	257,804	77.8	1,324,740,407	66.02
	1970-71	19,191,483	245,608	78.1	1,178,910,190	61.82
	1969-70	18,752,735	239,973	78.1	966,135,767	51.51
National Education Association	1968-69	18,467,944	238,102	77.6	901,353,107	48.80
	1967-68	17,271,718	230,578	74.9	822,595,699	47.62
	1966-67	16,684,922	221,722	75.3	763,600,617	45.76
	1965-66	16,423,396	210,692	77.9	696,325,421	42.40
U.S. Office of Education	1964-65	15,413,000	206,000	74.8	642,627,000	41.69
	1963-64	15,559,524	200,116	77.7	612,310,333	39.35
	1962-63	14,247,753	195,397	72.9	578,017,634	40.57
	1961-62	13,687,547	191,160	71.6	540,168,114	39.46
	1960-61	13,106,779	185,869	70.5	505,754,515	38.59

*Expenditures include purchase of equipment and tools, salaries, maintenance, supplies and fixed charges, such as licenses, drivers' physical examinations, insurance, etc.

Go With Experience

BILLINGSLEY PARTS AND EQUIPMENT, a leader in exhaust manufacturing for over 30 years, offers you the largest replacement parts inventory in the United States. We're committed to your needs — with fast delivery and down-to-earth prices . . . to keep you rolling.

We manufacture complete exhaust systems to fit *all* buses . . . plus we have in stock lenses - lights - switches - relays - flashers - heater motors - ignitors - windshield products - stop arm parts - first aid kits - eight light conversion kits - mirrors - seat covers to fit *all* buses.



For a copy of our catalog or to place an order call TOLL FREE in Texas: **800-392-6496** all others: **800-231-2312**

Billingsley PARTS AND EQUIPMENT INC
823 CLINE STREET
HUNTSVILLE, TEXAS 77340

Circle 148 on SBF Action Card

REPRINTS

Reproductions of feature articles or advertisements from past issues can be ordered in any quantity.

Send Reprint Orders to:

Reader Service Manager
School Bus Fleet
2500 Artesia Blvd.
Redondo Beach, CA 90278

or CALL:

(213) 376-8788

february-march 1984

school bus fleet

a bobit publication

615755-1 2/15/84

Should Pupils Wear Safety Belts?

Administrators of The Year

Why Peoria Goes Diesel

feb/mar '84 vol. 29 no. 1

school bus® fleet

a bobit publication

Affiliated Publications
Metro
Automotive Fleet
Contemporary Surgery
Contemporary Orthopaedics
Waterbed
Limousine & Chauffeur

Should Pupils Wear Safety Belts?
Administrators of The Year
Why Peoria Does Diesel

Cover photo of Collins Super Bantam in New Haven, Kansas by Kent Burnett.

Dialogue with Morris Adams.

Buckling up on school buses.

Features

12 **Should Students Be Belted?**
Seat belt issue resurrected. Do old answers still apply?

16 **A Dialogue With Morris Adams**
Thomas Built's V.P. on safety, specs, and life cycle costing.

27 **NAPT In New Orleans**
Charting the future of school transportation.

34 **1983 Administrator of the Year**
Dan Stevens and Bill Griggers take top honors.

38 **Making The Big Switch**
Diesel conversion in Peoria, Illinois.

42 **Moving The World For A Month**
ARA's plans for moving 12,000 Olympic athletes in L.A.

46 **Computers And Special Education Transportation**
Software program provides vital information for drivers.

48 **Coming To Terms With Vandals**
SBF survey reveals the victims and preventive measures.

Departments

Industry News	5	New Products	59
Trends	11	Classified	60
People In The News	54	Ad Index	63
Letters To The Editor	57	Editor's Perspective	64

Member:
National School Transportation Association NSTA
National Association for Pupil Transportation NAPT
business publication audit, inc. BPA

SCHOOL BUS FLEET (ISSN 0036-6501) is published six times a year (February, April, June, August, October, and December) by Bobit Publishing Company. The contents of this publication may not be reproduced either in whole or in part without consent of Bobit Publishing Company. Please address ALL correspondence to Editorial and Executive Offices at 2500 Artesia Blvd., Redondo Beach, California 90278. Subscription prices: $12 for 1 yr.; $20 for 2 yrs. Canada & foreign, $18 for 1 yr.; $30 for 2 yrs. Single copy, $2 except Fact Book, $5. Second class postage paid at Redondo Beach, CA 90278-9988 and at additional entry. POSTMASTER: Return Form 3579 to 2500 Artesia Blvd. Redondo Beach, California 90278.

Should Pupils Be Belted?

No, this is not a reference to disciplinary actions in the classroom; rather, it is regarding another raging controversy — installation of active occupant protection on school buses.

By Cliff Henke

Last year, 140 people (60 of them children) had their lives abruptly terminated for them in collisions involving school buses. While that statistic is the finest record of safety any mode of surface transport can boast, each death, as the National Safety Council described it, represents "a continuing tragedy."

Like that of the airlines, it seems that school bus crashes, so few and far between, are followed by loud and immediate public outcry for governmental action. Protection of the public safety, especially that of the next generation, has been a mandate of government since the beginnings of civilization.

The recent disaster at Jonesboro, Arkansas in which four students and five teachers lost their lives is an example of such post facto outcry. The demands for governmental action have ranged from better maintenance procedures to mandatory seat belt installation.

The latter lately has been the hottest of such solutions. Fueling the push for that proposal are several publications that have repudiated ten years of study concluding belts were not needed on school vehicles.

The UCLA study

More than ten years ago, in 1971, the University of California at Los Angeles published a report that laid to rest any thoughts about the benefits of seat belts on school buses. That study concluded that the concept of "compartmentalization" — scientifically spacing the seats a certain distance apart, raising the height of the seat backs, and padding the seats to reduce the severity and incidence of injury in a collision — would be more cost effective than installing seat belts.

The study did conclude, however, that the use of both the compartmental concept and seat belt installation would cut the fatality rate even more. That is the point seat belt advocates bring up: Now that we have the seat back height, spacing, and padding regulations in place, they argue, let us now mandate belts.

There is a positive correlation between seat belt usage and crash survival.

Most Type II school buses have seat belts installed for each occupants, student transportation experts at NHTSA surmise. Unfortunately, the National Safety Council, who is the only group which collects occupant death rates for school vehicles, does not break down statistics by bus type.

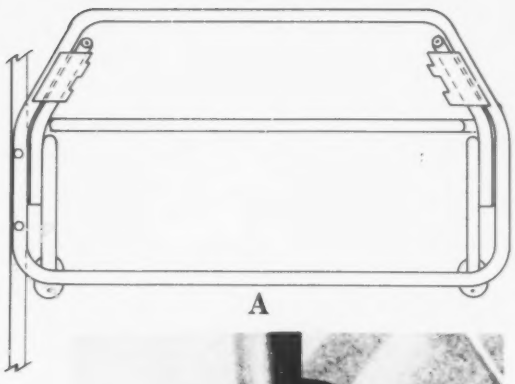
These consequences depend on good enforcement of use laws. Several add that little has been said about how such requirements will be executed on buses. Envisioned are time consuming stops by drivers to remind pupils repeatedly to buckle up, or costly additions of onboard aids for the same purpose.

The Physicians for Automotive Safety, an activist group concerned with the passage of such laws, add that while youngsters are more likely to be undisciplined, they are more susceptible to instruction on proper belt use. That factor, moreover, could lead to future increases in overall belt use as these children bring with them the habit of buckling up as they reach driving age.

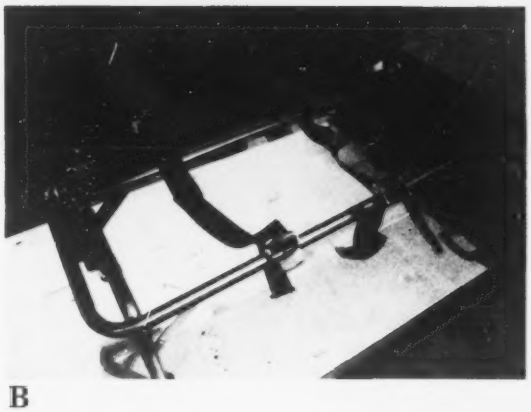
The longer term, overall educational benefits of these programs should be secondary to the immediate effects of reducing school bus accident fatalities, say the critics. Results of media and instructional campaigns sponsored by the National Highway Traffic Safety Administration (NHTSA) to encourage adult belt use have been mixed. The physicians group retorts that the use would be greater among children, yet have little data to support a conclusion. Joan Claybrook, the former NHTSA Administrator under President Carter, testified before the House Energy and Transportation Committee, "In 1972, NHTSA began a program for elementary schools. A test of the school program showed a slight increase in belt use among the children."

While several NHTSA and DOT policy studies conclude that "buckle up" laws would be the most cost effective measure to decrease passenger car deaths and injuries, the same conclusion might not necessarily be drawn for the pupil transportation industry.

Although cost effectiveness arguments seem callous when it is rather difficult to place financial value on the life of a possible future president or potential Nobel Prize winner, cost can be translated into safety terms, as well. Dick Harney, former president of the National School Transportation Association (NSTA) and owner of Palomar



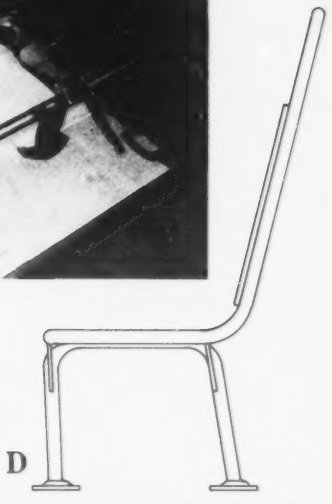
A



B

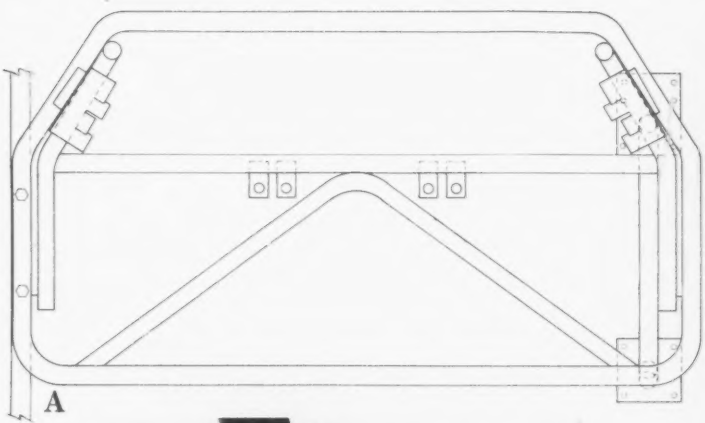
C

Restraining Seat Belts



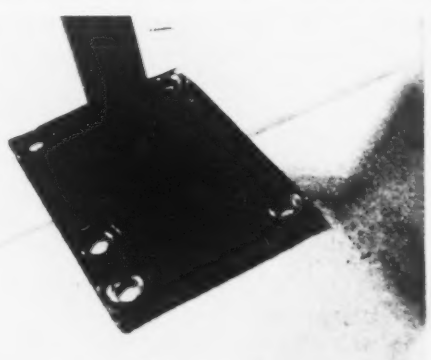
D

Illustrations A and D represent the typical seat frame in many current model school buses. Photograph C shows an anchorage system in which two bolts secure the seat leg to the floor; however many states only require one bolt and one sheet metal screw per leg. Photo B shows how a seat belt could be attached by simply looping the belt around the rear horizontal seat strainer. Estimated cost for installing this system is about $25 per seat belt. However industry experts say this method does not provide the degree of restraint normally required for automotive or small bus (under 10,000 GVW) seat belt assemblies, or meet the seat belt standards spelled out in FMVSS 209. (All illustrations courtesy Thomas Built Bus)



A

B



C

Safety Seat System

D

Illustrations A and D represent a seat frame that has been strengthened to withstand 5,000 lbs. force per occupant. In this engineering sketch a wishbone bar has been added across the rear seat strainer and front horizontal member, and an angle support added in the lower leg support structure. Photo C shows strengthened anchorage system in which six bolts are utilized to secure each seat leg to the floor of the bus. Photo B shows how the seat belt could be attached to the rear seat strainer by bolts to ensure that each belt can withstand 5,000 lbs. force. Estimated cost for installing this safety seat system would be about $100 per occupant. Industry experts say this system does provide the degree of restraint normally required for automotive or small bus (under 10,000 GVW) seat belt assemblies, and meets the seat belt standards spelled out in FMVSS 209.

NHTSA Rejects Seat Belt Petition

The National Highway Traffic Safety Administration rejected yet another attempt by seat belt advocates to make mandatory seat belt installation and use on all school buses. The agency, following an exchange of information with manufacturers, rejected the application by the Physicians for Automotive Safety.

In making its decision, the federal agency charged with overseeing highway safety asked the School Bus Manufacturers Institute, a division of the Truck Body & Equipment Association, to query its member companies if they would supply vehicles equipped with belts to customers who so specified.

The manufacturers responses refuted PAS's claim that bus makers would not install belts on demand; all but Carpenter said it could provide seat belts now or in the near future. About half of the school bus makers indicated that they could supply anchorages only in new buses.

Yet another survey was sent out by SBMI upon a request from NHTSA in December. This time NHTSA was interested in the retrofit issue.

Most responded that they could supply retrofit on some basis if customers so specify. Thomas, for instance, said that it could perform retrofit but that it would do so through its distributors

NHTSA also reaffirmed its stance that there are no federal standards concerning the installation of seat belts on larger school buses. In a letter to Thomas Built Buses, the agency stated that "manufacturers may install seat belts for passenger seats on such school buses without having to certify that the belts and anchorages comply with [Federal Motor Vehicle Safety] Standards 208, 209, and 210." NHTSA urges manufacturers to use systems that will safely do the task, however.

Transport of Upland, California, explains how asking school districts to bear the costs of safety programs can be counterproductive: "Extra costs can mean fewer bus routes which make kids walk farther to their stops. And studies show that is where most of the" deaths and injuries occur. The consensus of representatives from several manufacturers is that extra costs of seat belts would probably be passed on to the buyer.

Another factor to be considered, adds NHTSA and the manufacturers, is that the benefits of the seat and rollover protection standards passed in 1977 have not completely been realized. Because of the 10 year average age of a bus before replacement, the nation's fleet will not be "post-regulation" until the end of the decade. Several states are allowing districts to keep buses longer, which could postpone this further. However, the current rate of 15 persons killed while riding student transportation has already declined considerably from the 35 occupants killed in 1977, the last full year before the rules became effective.

A larger problem

The seat belt issue ignores the largest group of accidents where school buses are involved. Indeed, while the National Safety Council found that 15 people (10 students, five drivers) were killed while riding such vehicles, 50 pupils were killed while pedestrians. Even if seat belts reduced the occupant fatality rate to zero, it would reduce the overall statistics very little.

Most industry experts advocate several different approaches aside from restraint systems. The solutions can be categorized into two groups: safety technology and training programs.

The safety devices include convex mirrors, stop arms, and warning light systems, stop signs which swing out from the driver's side, and crossing control arms (see SCHOOL BUS FLEET, October/November 1983, page 24.) While none of these are more expensive than safety belts, all of them have a potential to save more lives in school bus related accidents.

Only some states mandate any of these devices, and only recently was the convex mirror regulation implemented by NHTSA. Thirty-six states have mandated the eight-light warning system, and only 28 states require the driver operated stop sign arms. None of these other devices have been made mandatory, although the crossing control arm has been tested in several states.

While bus design is not a safety device per se, the new snub nose configurations of most manufacturers will cut down the vision problems — and hopefully resultant accidents — caused by the longer front ends of old. According to the most recent Kansas DOT survey, 19 of the 60 student-pedestrians killed were struck by the front of the school bus.

"The issue of seat belts in school buses ignores pedestrian deaths, the largest school bus accident group."

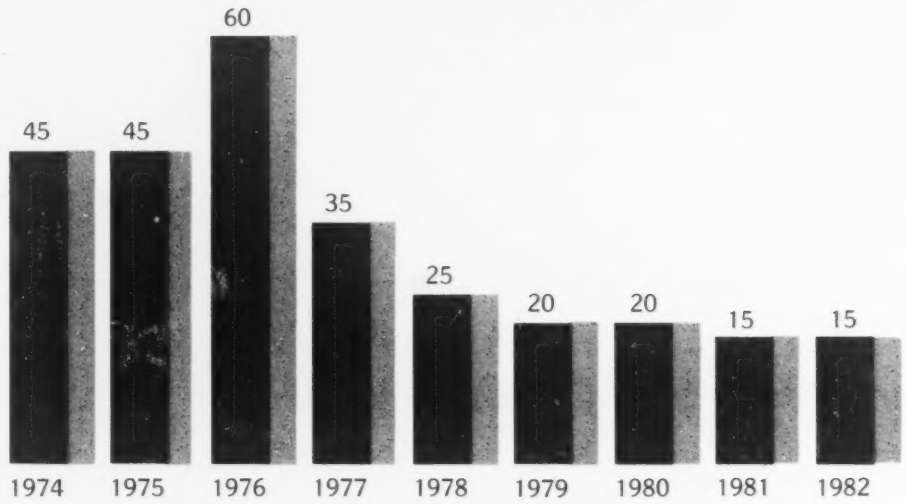
The usage issue

Like controversy surrounding the installation of seat belts in passenger automobiles in 1966, the question of usage inevitably arises. Current usage rates for seat belt use in cars are estimated at anywhere between 20 percent and 40 percent.

The problem would probably be worse with children, who are more likely to be ignorant of safety belt use and more prone to belt misuse. Roscoe Bernard, an executive at R.W. Harmon & Sons, explains, "It isn't reasonable to expect that all loose belts will be tucked neatly away so that they won't fall to the floor or be used to 'pop' another student." Proponents of belt requirements say that retracting belt technology has been developed so that this will not be a problem.

It leads to yet another difficulty, however. According to a six month

School Bus Occupant Fatalities 1974 — 1982



Source: National Safety Council

study by the Center of Auto Safety, a research group based in Washington, D.C., seat belt failure in crashes was not the exception, but the rule. Donald Schaffer, a vice president with Allstate Insurance, agrees: "We continue to produce 10 million automobiles a year with various kinds of lap and shoulder belt systems equipped with inertial reels and retractors. But they all have one thing in common: they don't have to meet any injury prevention performance criteria or be subject to any dynamic crash testing."

Yet the results of real world data is very impressive. Based on belt use patterns and traffic statistics in the United States and 11 foreign countries, there is an overwhelmingly positive correlation between usage and crash survival. On average, mandatory belt use laws in these nations resulted in an increase in belt use from about 25 percent to around 75 percent, while occupant fatalities and injuries were reduced by about 20 to 50 percent.

Driver training has potentially the greatest life savings, say most officials. Because no hard data was available during the Reagan budget cuts in the last few years to justify federal aid to school bus driver training, this program will expire at the end of the current fiscal year.

The supporting data is now available and growing, however. Two studies released last year in California prove that the number of accidents where the driver was at fault declined from 49.3 percent in 1975, the year before the state's driver training program was enacted, to 38.3 percent in 1982.

The studies also show that the program produced a considerable net financial savings created by lower accident rates, greater fuel efficiency, and less frequent routine repairs — a total of several hundred thousand dollars for each school district in the state. Another new study, conducted in Vermont, shows that properly trained drivers maintain better discipline on the bus, which means less driver distraction and fewer driver-related mishaps.

The several disastrous accidents during the last half of 1983 guarantee that the quest for safer student transport will continue in this newest session of Congress recently convened. With these and other arguments for the legislators to consider, and the many options to be weighed, a quick fix is not likely.

Even if the death rate were zero tomorrow, officials must then figure out how it was done to keep it that way.

WELDON LIGHTING

The Most Popular
SCHOOL BUS LAMPS
Because They Serve You Best!

When You Buy A New Bus,
Be Sure You Specify:

Model 1020 Warning Lamps
Model 1010 Stop Lamps
Model 1000 Turn Signals

NEED HELP? Write...

2000 South High Street
Columbus, Ohio 43207

Circle 113 on SBF Action Card

4/15/14
CIS 75-10

june-july 1984

school bus fleet

a bobit publication

Seat Belts:
The Debate Continues

North To Alaska:
The Misunderstood State

june/july '84 vol. 29 no. 3

school bus® fleet

a bobit publication

Affiliated Publications:
Metro
Automotive Fleet
Contemporary Surgery
Contemporary Orthopaedics
Waterbed
Limousine & Chauffeur

Cover: Mt. McKinley towers over school bus near Anchorage. Photo by Greg Beaumont

Arthur Yeager on belts

Propane in Des Moines

Features

Seat Belts: The Debate Continues

12 **Quest For Safety**
Paul Stewart's address to the National PTA against seat belts.

21 **A Misleading Safety Record**
Carol Fast and the National Coalition for Seat Belts in School Buses.

24 **A Medical Case For Seat Belts On School Buses**
Dr. Arthur Yeager on the myths and misquotes of seat belts studies.

28 **School Bus Safety: The Next Step**
During the past 10 years fatalities have declined substantially.

30 **When Is A School Bus Not A School Bus?**
Modesto, California enters the 21st century with a school bus.

35 **The Misunderstood State**
A profile of Burton Carver, the man who helped bring the NSTA to Alaska.

38 **Investing to Save**
Propane conversion paid back well for a Des Moines school district.

47 **School Buses, Bus Washers . . . And Glazed Donuts**
Clean buses brighten the image and visibility in Southfield, Michigan.

Departments

Industry News	5	New Products	58
Used Bus Prices	11	Classified	59
Letters to the Editor	53	Ad Index	63
People In The News	57	Publisher's Perspective	64

Member

BPA NSTA NAPT ABP American Business Press Inc

SCHOOL BUS FLEET (ISSN 0036-6501) is published six times a year (February, April, June, August, October, and December) by Bobit Publishing Company. The contents of this publication may not be reproduced either in whole or in part without consent of Bobit Publishing Company. Please address ALL correspondence to Editorial and Executive Offices at 2500 Artesia Blvd., Redondo Beach, California 90278. Subscription prices: $12 for 1 yr.; $20 for 2 yrs. Canada & foreign, $18 for 1 yr.; $30 for 2 yrs. Single copy, $2 except Fact Book, $5. Second class postage paid at Redondo Beach, CA 90278-9988 and at additional entry. POSTMASTER: Return Form 3579 to 2500 Artesia Blvd., Redondo Beach, California 90278.

Used Bus Prices

Class I Conventionals
61 to 72 Passengers
Base Wholesale Values

	Std Gas Pwr. Unit	Std Diesel Pwr. Unit	Optional Hvy Duty Diesel
1982	$12,800	$17,300	$18,600
1980	9,900	13,800	15,600
1978	7,400	11,000	12,800
1976	5,500	8,300	9,500

Add-Ons To Base Values

	Auto Trans	Air Brakes	Handicap Lift
1982	$1,000	$900	$1,200
1980	700	700	800
1978	500	500	300
1976	300	300	100

Class I Conventionals
49 to 54 Passengers
Base Wholesale Values

	Std Gas Pwr Unit	Std Diesel Pwr Unit	Hvy Duty Diesel
1982	$11,500	$15,200	16,200
1980	8,800	12,300	13,000
1978	6,600	9,800	10,300
1976	4,900	7,400	7,900

Add-Ons to Base Values

	Auto Trans	Air Brakes	Handicap Lift
1982	$900	$700	$1,200
1980	700	500	800
1978	500	300	300
1976	300	200	100

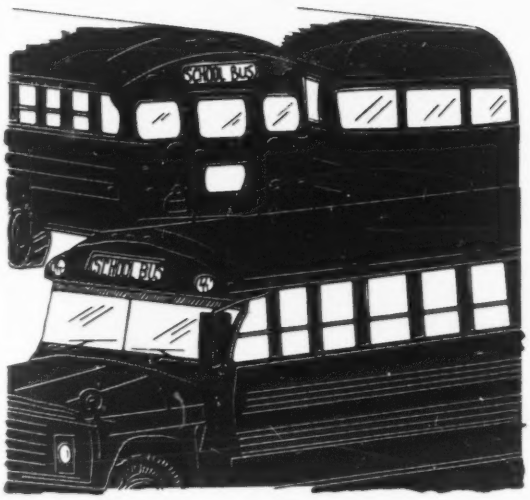
Class I Conventionals
Base Wholesale Values
30 to 41 Passengers

	Std Gas	Std Diesel
1982	$10,700	$14,100
1980	8,200	11,400
1978	6,100	9,100
1976	4,600	6,800

Add-Ons to Base Values

	Auto Trans	Air Brakes	Handicap Lift
1982	$900	$700	$1,200
1980	700	500	800
1978	500	300	300
1976	300	200	100

The values presented above are based on what used bus dealers will pay for a certain type and class of bus, a wholesale price, not retail. Values are audited by actual sales results. Vehicle condition, regional market conditions, vehicle equipment, and even weather conditions can cause a value to vary from base. Source: *Yellow School Bus Book*, Spring/Summer 1984 edition.



CUT EXPENSIVE REPLACEMENT COSTS WITH LUCITE® SAR

abrasion resistant acrylic® school bus windows

Vandalism & Safety — almac Lucite® SAR abrasion resistant windows have proven to be 10 to 15 times stronger than glass. They resist breakage and splintering.

Washing & Weathering — almac windows stand up under years of mechanical brush washings, remaining crystal clear and distortion free.

Lightweight — almac windows reduce total bus window weight 50% thereby *reducing fuel consumption.*

almac school bus windows comply with FEDERAL MOTOR VEHICLE SAFETY STANDARD No. 205.

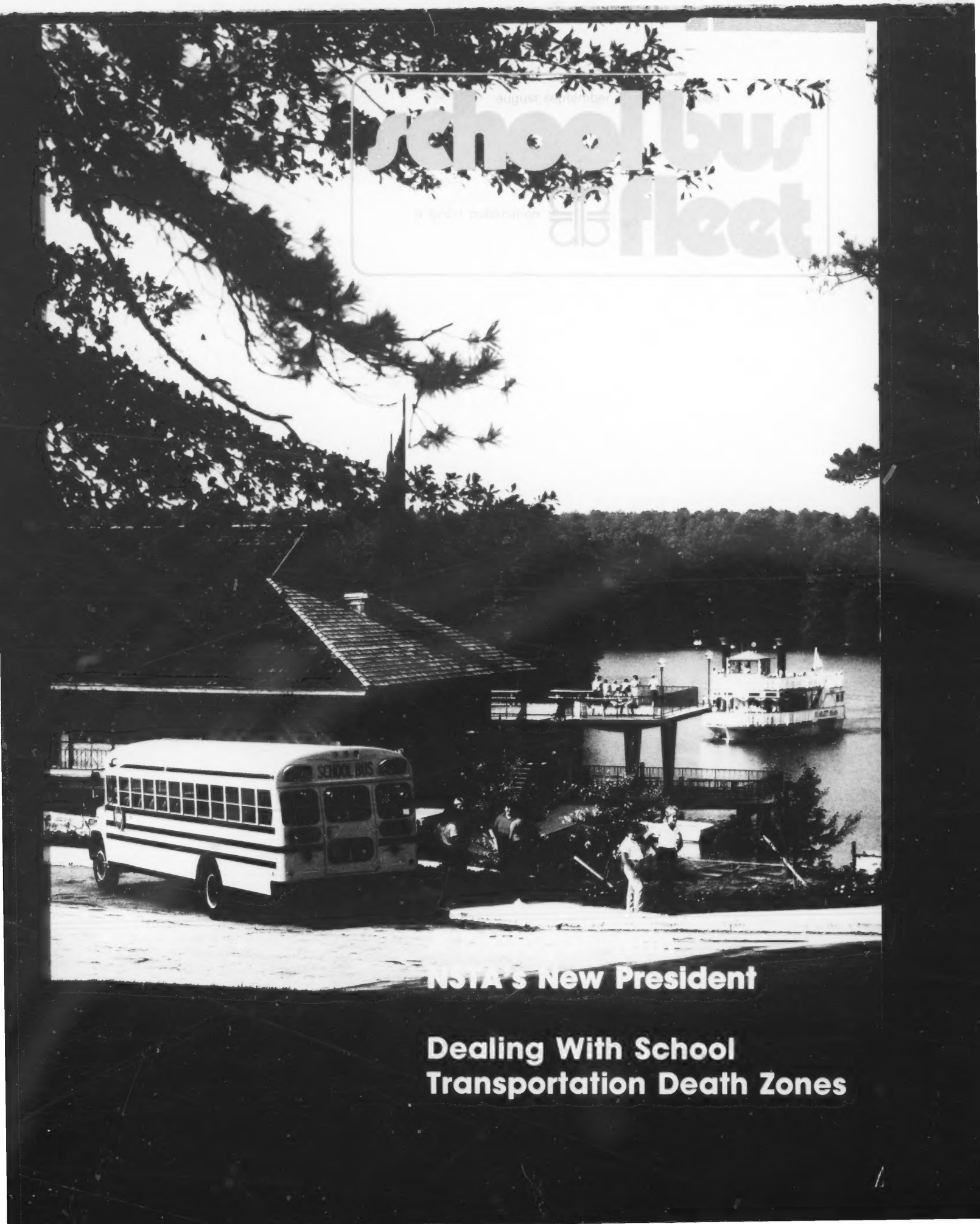
CALL OR WRITE FOR LITERATURE AND SAMPLES

®Registered trademark of E I DuPont DeNemours Co Inc.

almac plastics inc.

FABRICATION DIVISION
101-10 FOSTER AVENUE, BROOKLYN, N.Y. 11236
(212) 257-4444
Toll Free (800) 221-0986 (except NY State)

Circle 109 on SBF Action Card



NSTA's New President

Dealing With School Transportation Death Zones

Aug/Sept '84 vol. 29 no. 4

school bus® fleet

a bobit publication

Affiliated Publications:
Metro
Automotive Fleet
Contemporary Surgery
Contemporary Orthopaedics
Waterbed
Limousine & Chauffeur

Cover: A Blue Bird Conventional on a field trip. Photo by Erwin Harrison.

NSTA's new president

Collision of interests

Features

12 **The Changing Face of School Bus Transportation**
Microcomputers help both operators and manufacturers.

17 **Anchorage Draws Contractors**
NSTA celebrates two decades of service in the 49th state.

21 **A Dialogue With Leon Robinson**
How NSTA's new president views the industry's future.

24 **Death Zones Or Seat Belts — Which Is More Important?**
Students killed outside of the bus is the larger problem.

32 **The Olympics Chose A Patriot**
Fourteen Ward Patriots were converted for the Torch Relay.

37 **It's A School Bus! No, It's A Wrecker!**
A Cincinnati operator tows his buses with . . . a bus.

Departments

Industry News	5	New Products	45
Minimum Standards	11	Classified	47
Letters to the Editor	39	Ad Index	51
Editor's Perspective	52		

Member:

VBPA NSTA NAPFA ABP American Business Press Inc

SCHOOL BUS FLEET (ISSN 0036-6501) is published six times a year (February, April, June, August, October, and December) by Bobit Publishing Company. The contents of this publication may not be reproduced either in whole or in part without consent of Bobit Publishing Company. Please address ALL correspondence to Editorial and Executive Offices at 2500 Artesia Blvd., Redondo Beach, California 90278. Subscription prices: $12 for 1 yr.; $20 for two yrs. Canada & foreign, $18 for 1 yr.; $30 for 2 yrs. Single copy, $2 except Fact Book, $10. Second class postage paid at Redondo Beach, CA 90278-9988 and at additional entry. POSTMASTER: Return form 3579 to 2500 Artesia Blvd., Redondo Beach, California 90278.

Death Zones Or Seat Belts— Which Is More Important

The disproportionate emphasis on the seat belt safety issue is missing the point; it's the loading and unloading zone that is far more hazardous to the unsuspecting child.

By Roscoe G. Bernard

In recent months the transportation industry and the general public have been deluged with questions, debates, television talk shows, articles, and media coverage of the seat belt issue. Proponents have largely condensed their arguments into one major area: "If children are taught to wear seat belts on buses they will subsequently wear them when they grow up." Opponents counter with facts and figures supporting the compartmentalization concept and the undisputed fact that the yellow school bus is the safest vehicle on the road.

As a former educator I find the proponent's argument difficult to refute. What better time is there to teach than during the impressionable years? To go back to the dusty pages of earlier education texts, I recall an often quoted axim by John Dewey: "We learn by doing."

This fundamental principle is still valid; we cannot question its intrinsic worth. It is simply stated and should continue to function as it did then, as a very basic tenant of the education process.

Why then would anyone oppose such a treatise designed to teach children that which most of us agree is beneficial, i.e., the use of seat belts to save lives?

Although the answer is quite simple, it is seemingly passed over in the waves of emotionalism displayed by the well-meaning but misguided individuals who clamor for seat belts on the yellow school bus. The yellow school bus, contrary to what many of us would hope, is not a classroom, nor is the school bus driver a teacher, per se.

Although we constantly strive for classroom conditions on our buses in respect to discipline and behavior, we nonetheless cannot make a comparison. For example, what sane teacher would attempt to teach children for an entire class

It's the loading and unloading zone that represents the most danger to children, particularly those between five and eight years of age.

period with his back turned while using nothing more than a small rear view mirror as his only means of observation?

The point is simple; there can be no accurate comparison between the school bus and the classroom, just as we cannot compare the school bus with the family automobile.

The sound of death

To the untrained, unsuspecting child, the last thing he sometimes hears is the screech of rubber as a frantic motorist realizes too late that a child (particularly those between ages five and eight) doesn't always look before dashing into the street.

According to the National Safety Council statistics, 69.3 percent of the fatalities occurring in loading and unloading zones between 1979 and 1982 were children between five and eight years of age.

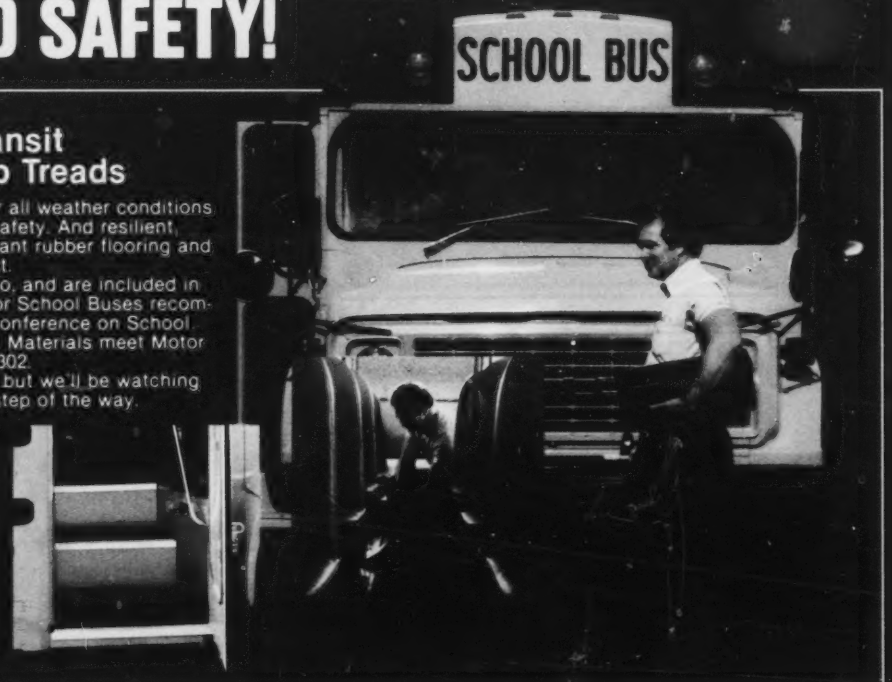
A typically tragic situation is described in the following fatality report, and it emphasizes what has been previously said. "The driver gave the child, along with others, permission to get off the bus and wait at a grocery store until he returned from his double back route. When the child saw the bus returning, he apparently ran in front of a car traveling in the opposite direction from the school bus."

The Death Zone

	'79	'80	'81	'82
Children killed by school bus				
front of bus	20	16	19	12
back of bus	5	5	7	5
Children killed by other vehicles	14	9	11	11
Total number of children killed	**39**	**30**	**37**	**28**

Source: School Bus Loading & Unloading Survey, Bureau of Management Services Safety, Kansas DOT.

HE'S LAYING DOWN THE RULES FOR CHILD SAFETY!



Safety First Transit Flooring & Step Treads

Safe, sure footing under all weather conditions is a must for school bus safety. And resilient, fiber reinforced, slip-resistant rubber flooring and step treads do the job best.

They're long-wearing, too, and are included in the Minimum Standards for School Buses recommended by the National Conference on School Transportation, NEA, 1970. Materials meet Motor Vehicle Safety Standard #302.

Kids may come and go, but we'll be watching out for their safety every step of the way.

For complete information, call or write the R.C.A. Rubber Company.

THE R.C.A. RUBBER COMPANY
An Ohio Corporation of Akron, Ohio
1833 E. Market Street
Akron, Ohio 44305
(216) 784-1291

Circle 122 on SBF Action Card

Although most states have laws which prohibit motorists from passing a stopped school bus in the process of loading or unloading passengers, relatively few are easy to enforce, and convictions are rare. It would almost seem that many are designed to be deliberately unenforcable and difficult for the bus driver.

Typically the driver must not only be able to identify the vehicle insofaras license, make and description, but also be able to positively identify the driver and be willing to testify in court. All of this must happen during a period of time most crucial to the driver and to the children for whom he is responsible. It is encouraging to note that a number of states have recently strengthened existing laws which should make it easier to expedite prosecution, and additional emphasis is being given to those who ignore or violate existing laws.

Minnesota, for example, has just recently extended the period of time for which a driver may be arrested for going through a stop arm from two to four hours. The offending motorist now must evade arrest for four hours, rather than the previous two.

In Morehead, Kentucky a motorist charged with drunken driving was sentenced to life imprisonment for fatally injuring an eight year old child who had just stepped off the school bus. Testimony showed that the car passed four or five other vehicles in addition to the bus displaying flashing red lights. The motorist received an additional six-month sentence for passing a stopped school bus.

The other killer

Such motorists, however, are not the only source of danger for the unsuspecting child. Equally alarming are the statistics involving the child and the school bus itself. Between 1979 and 1982, 89 children were killed by their own bus. Although this represents 45 fewer deaths than those occurring from the vehicles passing a stopped school bus, it is a disgraceful statistic which says very little for the school bus industry and driver training in general. The really sad fact is that children, even more than those killed by passing motorists, need not have died. With proper education, it is a statistic that can and should be totally eliminated.

For example, proponents of seat belts largely agree that their usage and enforcement (particularly in middle and upper grades) is largely dependent upon the employment and utilization of adult monitors. Wouldn't it be tremendous (if such requirements should come about) that monitors would be totally charged with the responsibility of ensuring that no bus ever moved until all children were completely clear? Such a requirement would not only effectively eliminate the fatalities caused by a child's own bus, but would also substantially reduce those caused by other vehicles.

In recent months very little has been said about cost. There now ap-

the very affordable high quality, 10 watt MOBILPAGE® 442-AD safety sound system
protect students outside the bus where 5 out of 6 fatal accidents occur . . . and help maintain safe orderly conduct inside the bus.
Shock resistant, weatherproof horn specifically designed for school bus applications.
Rugged and dependable dynamic microphone.
Two 603B interior speakers with baffles.
Powerful 10 watt amplifier.
Midwest Electronic Industries, Inc.
4945 West Belmont Avenue • Chicago, Illinois 60641
312 685-3500
Call or write for details

pears, however, to be considerable interest in legislation which would provide incentive grants for those states requiring installation of seat belts on school buses. Congressman Kostmayer of Pennsylvania, who recently introduced legislation to this effect, said in his introductory statement, "This legislation would not mandate seat belts on school buses, but federal funds would be provided to those states enacting seat belt requirements for new buses." Although Congressman Kostmayer went on to say that "funds could be used for educational programs about seat belt use and for other types of child safety as well," he failed to address one of the initial issues, i.e., the cost of employing adult monitors for each bus.

When the industry used (as an earlier basis for arguments) the fact that seat belt legislation would serve to drive the already high cost of transportation even higher, proponents countered with, "We are not talking about money; we are talking about children's lives." Once again, such an argument is difficult to refute; but I suspect that the American public, if convinced that seat belts are the answer, would find a way to pay the bill. The transportation industry has repeatedly and publicly stated that it would welcome seat belts if it were truly demonstrated that they would in fact save lives and not produce additional hazards for the children.

As an additional counter-measure, the school bus industry pointed out that in view of the probable reduction in seating capacity (some estimates run as high as one-third), body companies and contractors would ultimately stand to profit through the sale of buses and additional units placed in service.

Seat belt proponents, recognizing the validity of such arguments, have largely backed away and can readily see that any cost increases are ultimately going to be paid by the tax paying public. Whether or not it would be through federal grants or individual levies, someone, somehow, is going to pay for it.

The safe way to go

The National Highway Traffic Safety Administration (NHTSA) has consistently denied petitions to amend standards and require seat belts on school buses with a GVW of over 10,000 pounds. Tests conducted to evaluate their effectiveness are inconclusive, and NHTSA subsequently believes that the compartmentalization concept mandated in 1977 provides the optimum protection for the seated passenger. They also recommended additional testing and research to determine whether or not pupils would actually be safer through the use of seat belts on school buses.

Isn't it time to table this issue? There is no question but that our system is the best there is; but so long as one child fails to make it through the death zone of loading and unloading areas, we cannot be proud of our statistics.

Roscoe G. Bernard has been public relations director at R.W. Harmon & Sons, Belton, MO., for 16 years.

RICON
BUS LIFT
Fully Automatic and Semi Automatic

★ **Lightweight** — All Aluminum Construction
★ **All Electric** — No Hydraulic Leakage or Cold Weather Problems
★ **Fully Automatic** — Folds/Unfolds — Up/Down All by Power

COST SAVER: Saves $150 to $175 in fuel per year.
• Lightweight Low Battery Draw Saves 1-2 Batteries per year • Low maintenance pays for lift in short time

★ **Compact** — Folds to 9"
★ **Fits All** — Large or Small Buses
★ **Will Operate by Hand** in Case of Power Failure
★ **Dependable** — Years of Trouble-Free, Safe Service

Ricon leads the industry in wheelchair lift manufacturing experience and has over 175 dealers in the USA and Canada — all waiting to serve you.

Ricon manufactures platform and rotary lifts for buses and vans, porch lifts for home and business, trailer/motor home lifts . . . and distributes a complete line of V.A. approved hand controls.

RICON SALES, INC.
Affiliate of Ricon Corp.
11684 Tuxford Street
Sun Valley, California 91352
(213) 768-5890

Circle 124 on SBF Action Card